Advanced geodata for next-gen wireless network planning

DigitalGlobe®

A **MAXAR** COMPANY

Introduction

DigitalGlobe advanced and scalable geodata packages for wireless network planning are tailored to work with RF propagation modeling software and point-to-point or point-to-multi-point use cases. With ever-expanding modern networks and increasing network performance requirements, our geodata makes planning the networks of tomorrow feasible today.

In the past, propagation modeling across low-density urban, suburban and rural morphologies have relied on cheaper geodata. As modern networks become more complex and dense, the low fidelity data currently used over wide areas will no longer be adequate for providing the detailed propagation needed for small cell deployments. The implications in terms of hardware cost and field validation to correct model inaccuracies have become increasingly prohibitive, and more so as we move toward 5G networks.

With rapid urban change and new construction, geodata can become outdated almost immediately after it is created. When it comes time for a new network rollout, refreshed geodata was traditionally available at very high cost. This is becoming increasingly problematic with newer, advanced networks on the horizon. Modern geodata must be more dynamic. Much like the world has abandoned hard copy map atlases in favor of online digital maps, geodata should be becoming a more living, current product that can be updated regularly based on change signals.

As network planning requirements become more demanding, reliance on today's network planning approach is beginning to lag in terms of scalability, economics, and speed-to-market. A new approach is required to generate cost efficient, but highly granular, 3D geodata over wide areas. In addition, detecting obsolescence of models and reacting to urban change by refreshing models more proactively is becoming ever more important.

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Traditional geodata lacks the level of detail needed to address emerging network challenges.

DigitalGlobe is modernizing geodata for the network planners of the future. A unique combination of industry-leading capabilities enable us to provide the most effective geodata solutions, including:

- World's largest and most current library of very high-resolution satellite imagery, with more than 3 million square kilometers of new collections being added every day

- Access to the most advanced multi-view photogrammetry technology to build 3D terrain and building models

- Partnerships with global technology suppliers, enabling automation of geodata creation at massive scale

- Advanced, cloud-based platform services to allow efficient, dynamic development of new data processing capabilities, including AI-assisted data extraction

- Urban change detection capabilities, based on our own imagery library and radar data provided by fellow Maxar Technologies companies

- Sophisticated solution packaging and quality control, ensuring model integrity for superior results

- Change detection capabilities enable refresh of geodata over key areas proactively, based on real-world change triggers.

With DigitalGlobe geodata, you'll get the freshest possible data at the highest available quality with global coverage.

The DigitalGlobe geodata portfolio is packaged for use in today's common RF modeling software, including:

- **Forsk Atoll**

- **InfoVista Planet**

- **EDX SignalPro**

DigitalGlobe capabilities relative to wireless network planning provide efficiencies and real economic advantages, including:

- Quality at scale - Superior quality across the globe makes high-resolution, highly accurate geodata pragmatic over urban, suburban, and rural areas. This is critical to planning modern networks, including 5G.

- Speed to market - Reduce field work time needed to refine and correct models and improve cost efficiency while getting to market faster.

- Superior customer satisfaction – Better data means better models with fewer errors. This means lower hardware costs and superior end-customer experience, which drives account acquisition and loyalty.

- Agility - Improved reactiveness to urban change, meaning geodata can be updated before it becomes stale. You can better react to urban change and reduce iteration and validation costs.

Getting a model right the first time reduces dependency on iterative modeling and validation, and also improves efficiency of capital expenditure associated with network hardware, dramatically reducing costs and improving project timelines. With geodata packages from DigitalGlobe, network planners now have rapid access to the most reliable geodata to-date that is economically practical over wide areas and varying morphologies (urban to rural) along with the ability to keep this geodata current.
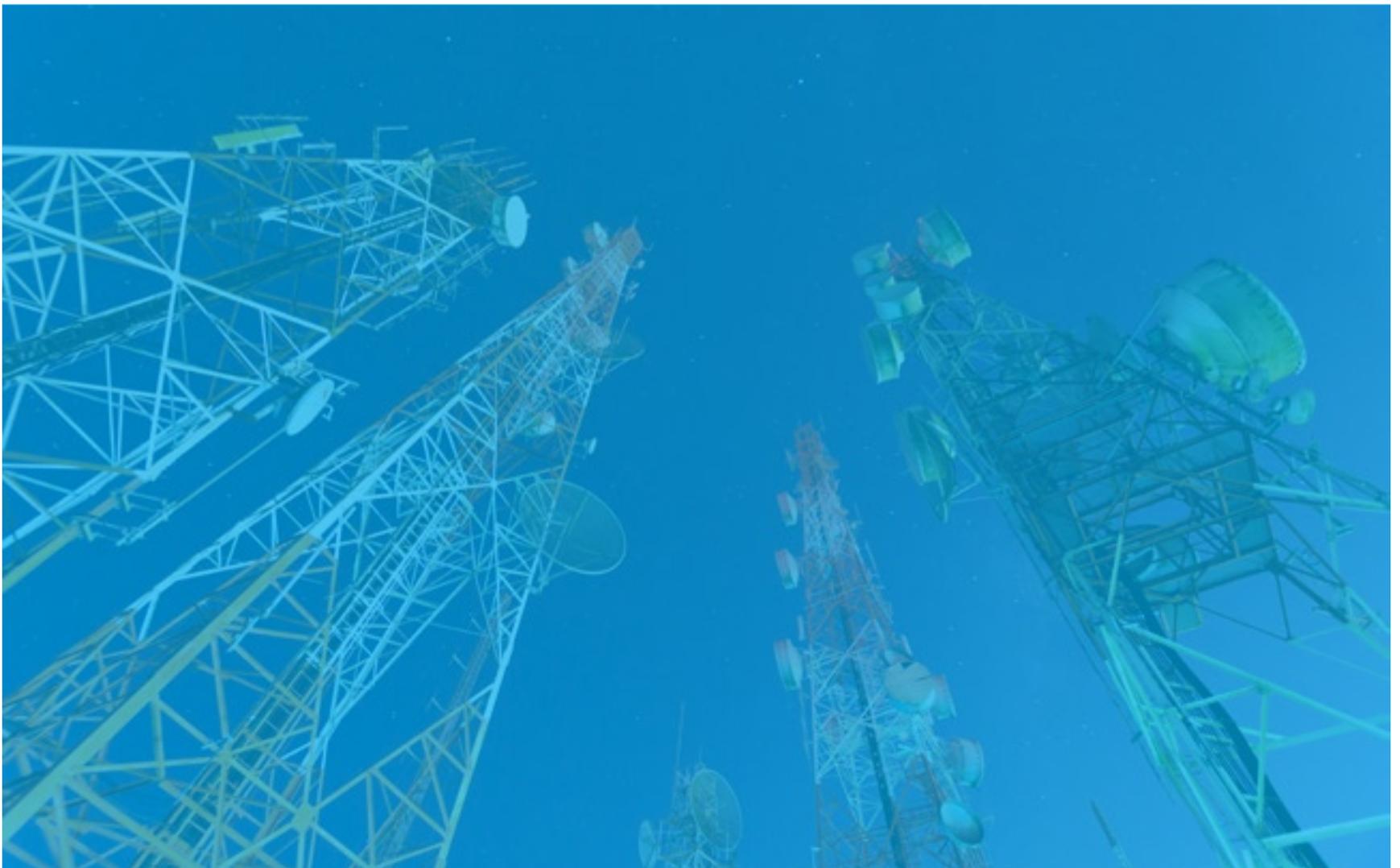
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